

## CLAIMS

1. A radiographic image reading apparatus to read a radiographic image information from a photostimulable phosphor sheet contained in a cassette,

wherein the apparatus performs at least two modes of a read mode to read a radiographic image information held by a photostimulable phosphor sheet, and an erase mode to erase the radiographic image information held by the photostimulable phosphor sheet, and a main body of the radiographic image reading apparatus comprises a switching section to switch at least the two modes.

2. The radiographic image reading apparatus of claim 1, wherein the read mode performs at least two operations of a read operation to read the radiographic image information from the photostimulable phosphor sheet, and an erase operation to erase the radiographic image information remaining on the photostimulable phosphor sheet after the read operation.

3. The radiographic image reading apparatus of claim 1, wherein the erase mode performs an erase operation to erase the radiographic image information from the photostimulable phosphor sheet.

4. The radiographic image reading apparatus of claim 1, wherein the read mode is automatically selected at time of starting the radiographic image reading apparatus, and the erase mode and the read mode are alternately selected by operating the switching section.

5. The radiographic image reading apparatus of any one of claims 1 to 4, wherein in a case where the erase mode is selected, when the cassette is supplied to the radiographic image reading apparatus within a predetermined time, the erase operation is performed, and when the cassette is not supplied to the radiographic image reading apparatus within the predetermined time, the erase mode automatically ends to restore to the read mode.

6. The radiographic image reading apparatus of any one of claims 1 to 5, wherein in the erase mode, when the cassette is supplied to the radiographic image reading apparatus within a predetermined time after the erase operation was completed, the erase operation is continuously implemented, and when the cassette is not supplied to the radiographic image reading apparatus within the predetermined time, the erase mode automatically ends to restore to the read mode.

7. The radiographic image reading apparatus of

claim 5 or 6, further comprising a display section to display the predetermined time.

8. The radiographic image reading apparatus of claim 7, wherein a residual time of the predetermined time displayed on the display section is displayed by down count or up count.

9. The radiographic image reading apparatus of claim 1, wherein the erase mode comprises a plurality of erase operations having erase speeds different from each other, and the plurality of erase operations is selected by operating the switching section.

10. The radiographic image reading apparatus of claim 1, wherein an operation of switching from the read mode to the erase mode is accompanied by a long-time pushing operation of a button or a switch.

11. The radiographic image reading apparatus of claim 1, further comprising a display section to display a progress of a processing when the cassette is processed.

12. The radiographic image reading apparatus of claim 11, wherein the progress of the processing displayed on the display section is updated according to a lapse of a

predetermined processing unit.

13. The radiographic image reading apparatus of claim 12, wherein the predetermined processing unit when the cassette is processed in the read mode comprises at least two kinds of processing of the read operation and the erase operation.

14. The radiographic image reading apparatus of claim 11 or 12, wherein the progress of the processing displayed on the display section is presented by sequentially altering a display color of a plurality of display elements displayed on the display section in advance.

15. A radiographic image reading apparatus to read a radiographic image information from a photostimulable phosphor sheet attached to a back panel side of a cassette in which a front panel and a back panel can be separated from each other, comprising:

an insertion opening to insert a cassette;  
a conveying section to move the cassette;  
a separation section to separate the front panel and the back panel of the cassette;  
a sub-scanning section to perform a sub-scanning of the back panel separated from the front panel by the

separation section;

a reading section to read a radiographic image information held by the photostimulable phosphor sheet attached to the back panel;

a combination section to combine the front panel with the back panel again;

an ejection port to eject the cassette combined by the combination section; and

a sensor to detect a fall of the back panel, wherein when the fall of the back panel is detected by the sensor, the fall is dealt with as an error.

16. The radiographic image reading apparatus of claim 15, wherein the sensor to detect the fall of the back panel is a back panel absorption sensor outputting on when the back panel is absorbed by the sub-scanning section, and considers that the back panel fell when the back panel absorption sensor outputs off in a time zone in which the back panel absorption sensor should be on.

17. The radiographic image reading apparatus of claim 15, wherein the sensor to detect the fall of the back panel is a back panel fall detection sensor to detect an existence or a nonexistence of the back panel when the cassette is ejected to the ejection port, and considers that the back panel fell when the back panel fall detection

sensor outputs a signal indicating the nonexistence of the back panel at time of ejection of the cassette.

18. The radiographic image reading apparatus of claim 17, wherein the back panel fall detection sensor is configured to detect the existence or the nonexistence of the back panel by detecting an inclination of a tracing rod tracing the back panel side of the cassette.

19. A radiographic image reading apparatus to read a radiographic image information from a photostimulable phosphor sheet attached to a back panel side of a cassette in which a front panel and a back panel can be separated from each other, comprising:

a separation section to separate the front panel and the back panel of a cassette;

a sub-scanning section to perform a sub-scanning of the back panel separated from the front panel by the separation section, in a state of absorbing the back panel; and

a back panel absorption sensor to detect that the back panel is absorbed to the sub-scanning section,

wherein when the back panel absorption sensor outputs off in a time zone in which the back panel absorption sensor should be on, the output is considered to be an error and is dealt with as the error.

20. A radiographic image reading apparatus to read a radiographic image information from a photostimulable phosphor sheet attached to a back panel side of a cassette in which a front panel and a back panel can be separated from each other, comprising:

an insertion opening to insert a cassette;  
an ejection port to eject the cassette; and  
a back panel fall detection sensor to detect an existence or a nonexistence of the back panel,  
wherein when the back panel fall detection sensor outputs a signal indicating the nonexistence of the back panel, the back panel is considered to have fallen, and the apparatus is controlled not to operate even when a next cassette is inserted into the insertion opening.

21. The radiographic image reading apparatus of claim 20, wherein the back panel fall detection sensor is configured to detect the existence or the nonexistence of the back panel when the cassette is ejected into the ejection port.

22. The radiographic image reading apparatus of claim 21, wherein the back panel fall detection sensor is configured to detect the existence or the nonexistence of the back panel by detecting an inclination of a tracing rod

tracing the back panel side of the cassette.